



3902

Diag. Cht. No. 1231-1 & 1232-1

Form 504  
DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

State: *N. C.*

11-5613

DESCRIPTIVE REPORT.

*Hydrographic* No. *3902*

LOCALITY:  
*Pamlico Sound*

*1916*

CHIEF OF PARTY:  
*O. W. Ferguson*

3902

SURVEY  
DEC 16 1916

DESCRIPTIVE REPORT  
HYDROGRAPHIC SHEET NO. 3002

1:20 000

Southeastern Part of

PAMLICO SOUND

Core Sound to Ocracoke.

SCHOONER MATCHLESS, 1916.

Paul M. Trueblood, Commanding, May 10-Aug. 24.

O. W. Ferguson, " Apr. 10-May 10.

DESCRIPTIVE REPORT, HYDROGRAPHIC SHEET 3902.

LOCATION, Hydrographic Sheet 3902, scale 1 : 20 000, covers the east-  
EXTENT,  
SCALE, ern part of Pamlico Sound from and including the northern entrance  
to Core Sound and Brant I. Shoal L.H. to Bluff Shoal  
L.H. and past Ocracoke. All the area of the sheet inside Pamlico Sound  
was developed and the entrance to Ocracoke Inlet was developed out to  
the six fathom curve.

GENERAL Pamlico Sound is shallow and has uniformly flat bottom with  
STATEMENT, very few hard spots. There are extensive flats along the out-  
er islands. The islands separating the Sound from the ocean are low, flat,  
and sandy. They are comparatively narrow; from half a mile to a mile and  
a half. The inner shores are marshy in places and most of the tidal flats  
are covered with a growth of salt grass. The village of Ocracoke is well  
protected by a thick growth of trees on the ocean side. There is also a  
much smaller grove some four or five miles southwest of Portsmouth. The  
whole region, however, is devoid of natural features which are conspic-  
uous enough to show as landmarks at a distance or which are definite en-  
ough to use as marks when close in.

LANDMARKS, The Life Saving Station and the Methodist Church Spire in  
Portsmouth and the Life Saving Station, Northern and Southern Methodist  
Church Spires, Doxsee's Clam Factory, and the School House in Ocracoke  
are the most prominent buildings. The first two would probably be most  
easily identified from the outside, the others in approaching Ocracoke  
from the Sound. Ocracoke L.H. a 75 foot cylindrical brick tower painted  
white is the highest structure in the region and is most conspicuous in  
a favorable light. Duck blinds and hunting club houses are used to some  
extent as guides by local fishermen.

BARS AND CHANNELS

There are a number of channels in Ocracoke Inlet, all of them rather winding and narrow and all of them more or less obstructed so that only vessels of very light draft can go entirely through. The main entrance from the outside is by the northerly channel which is well buoyed and has a depth of 11 feet on the bar. This depth can be carried up to the village of Ocracoke.

All the various channels in the Inlet are obstructed at some point or other by bars having a maximum depth of two to five feet on them. Wallace Channel which was at one time dredged through has silted up so that the available depth on the "bulkhead" is now about five feet. About the same depth is available in entering the Swash Channel from the north. Blair Channel and Teaches Hole Channel are also obstructed. There is a considerable basin directly north of Gap Pt. in which the depth is from five to ten feet. It is entered across a bar from Teaches Hole Channel, which is Sheep Island Channel runs straight from a barrel, southeasterly from Sheep Island Blue Beacon to Sheep Island, thence it follows along the shore line to a junction with Wallace Channel. It has a shoal at each end. As noted before most of the shoal areas are covered with weeds.

Sheep Island Channel is used by all launch traffic unless as on occasional very low wind tides there is not sufficient water on the bar to enter it from the west. In that case Wallace Channel is used.

With a full tide and to avoid heavy seas in crossing from Teaches Hole Channel to Wallace Channel launches sometimes take a course staked across the flats west from Ocracoke and north of the islets in the Inlet.

All of the channels regularly used are marked by stakes, barrels duck blinds, bouys, beacons, or lights.

ANCHORAGES,

Anchorage may be found in Sheep I. Blue in 8 to 10 feet

mud bottom or in the slue south of Nine Foot Shoal Beacon in 8 to 12 feet, soft bottom. The MATCHLESS anchored in both places and dragged somewhat in the former and considerably in the latter in southwest blows. After the storm of July 17 and again after a blow in August it was necessary to shift anchorage on account of having dragged up to the edge of the shoal. The power schooners which run to Washington N.C. anchor in the channel just in front of the village. Fishing schooners from the outside occasionally run in and anchor in the same place.

TRAFFIC, Ocracoke and Portsmouth have a daily mail service by launch from Beaufort. Passengers and parcel freight are also carried. Two launches each make a round trip every two days, Sundays excepted. Another launch makes regular trips over the same route carrying passengers and fish to Beaufort and Morehead City. Other launches make occasional trips.

Two power schooners make regular trips from Ocracoke to Washington, N.C., alternating so as to make three regular trips per week. A third schooner makes the same or other runs as business offers but without regular schedule. They carry passengers, fish, ice, lumber, and other freight.

CHANGES, 1. Whalebone Inlet is entirely closed. Both outer and inner shore lines are well marked and accord fairly well with the general trend of the adjacent shore. The island is quite low at this point, however, certainly not over five feet above high water in any part of what was formerly the Inlet and as the material is all loose sand it is possible that it might break through in a heavy storm. There are comparatively deep slues leading away from this position but ending at the flats to the westward.

2. A channel occasionally used by the mail launch in rough

northerly weather to avoid crossing Harbor Island Bar in entering Core Sound is developed on this sheet. The entrance is by Wainwright Slue and across the flat past Wainwright Island.

3. The six foot spot about midway between Harbor I. Bar L.H. and Southwest Point Royal Shoal L.H. was found to be more extensive than shown on the chart.

4. Sheep Island Channel was found to be a well defined channel, well staked and used every day.

5. Bird Island has changed considerably in area, shape, and somewhat in position.

6. The large sandy tidal flat in the southern end of Ocracoke Island has filled in.

7. The numerous changes of shoreline, channels, and bars in Ocracoke Inlet can best be seen by comparing the present with previous surveys.

METHODS, Nearly all the work was done by the usual methods of topography and launch hydrography. However some modifications were necessary on the shoal areas. A light draft flat bottom launch was used very effectively, the soundings being taken with a pole marked in feet by alternate strips of black and white paint. This launch made good headway in 1.8 feet, but had to be poled or pushed in 1.5 feet and dragged in 1.3 feet. The plan of putting a small hydrographic party in a flat bottom skiff under oars was abandoned as unsatisfactory and ineffective. It was found that all areas having <sup>a depth of</sup> 1.8 feet or more could be covered much more satisfactorily and rapidly by the launch and the shoaler areas by having the two observers wade across them in straight lines taking sextant angles at intervals of 200 or 300 meters or at each appreciable change of depth, noting

the depth of water and time of each position.

TIDAL NOTE, The following tide gauges were used:

1. Automatic Tide Gauge at Portsmouth, used for work in adjacent channels and for establishment of datum.

2. Sheep Island Blue Beacon Tide Staff, used for nearly all the work inside the Sound on the southwestern half of the sheet.

3. Harbor Island Bar L.H. Tide Staff, used for development of Harbor I. Bar and Brant I. Shoal and the entrance to Core Sound.

4. Nine Foot Shoal Beacon Tide Staff, used for all the work inside the Sound on the northeast half of the sheet.

5. Pamlico Inn Tide Staff, used for the area between the open Sound and the Inlet proper.

6. Ruth, used for the work in the Inlet proper and for the area immediately adjacent inside.

7. Automatic Tide Gauge at Cape Lookout (Army Engineers), used for the work outside the Inlet proper.

Wherever practicable benchmarks were established and connected with the tide staffs in accordance with the Instructions of the Office.

*Paul M. Trueblood*

Assistant, C. & G. Survey,  
Commanding.

TABLE OF STATISTICS,  
HYDROGRAPHIC SHEET NO. 5002

PAMLICO SOUND

CORE SOUND TO OCRACOE

SCHOONER MATCHLESS

APRIL \*AUG. 1916

O.W.FERGUSON,

PAUL M.TRUEBLOOD,

Assistants, Commanding.



DATE	DAY	VOLUME	POSITIONS	SOUNDINGS	STATUTE MILES	VESSEL	CH. PARTY
April	24	a	1	131	1206	27.5	Launch 54
"	26	b	1	126	1139	30.3	"
"	26	b	2	3	122	7.3	"
"	28	c	2	144	1343	32.8	"
May	1	d	2	78	753	16.8	"
"	1	d	3	16	106	2.5	"
"	2	e	3	129	1219	27.0	"
"	3	f	3	85	798	18.0	"
"	5	g	4	140	1288	34.4	"
"	10	h	4	86	752	19.3	"
"	10	h	5	48	409	10.1	"
"	13	j	5	62	448	14.0	"
"	15	k	5	37	309	7.0	"
"	16	l	5	117	861	26.2	"
"	18	m	6	127	1281	20.5	"
"	20	n	6	86	775	16.5	"
"	22	o	7	136	1302	22.0	"
"	23	p	7	102	676	10.3	"
"	24	q	8	66	572	15.0	"
"	25	r	8	164	1574	28.5	"
"	26	s	9	182	1587	28.2	"
"	27	t	9	91	703	15.0	"
"	27	t	10	6	53	1.0	"
"	29	u	10	157	1080	19.0	"
"	31	v	10	113	879	12.4	"
"	31	v	11	8	60	1.0	"
June	1	w	11	136	1111	17.8	"
"	2	x	12	123	1028	38.4	"
"	3	y	11	33	200	4.2	"
"	5	z	11	79	507	8.5	"
"	8	a'	12	135	1144	33.0	"
"	15	z	13	67	441	8.3	"
"	9	b'	14	121	796	32.3	"
"	10	c'	14	75	679	16.7	"
"	12	d'	13	26	257	6.3	"
"	13	e'	13	136	1086	17.5	"
"	14	f'	14	80	764	19.2	"
"	14	f'	15	50	451	14.7	"
"	15	g'	16	124	1198	21.3	"
"	17	h'	15	75	817	15.0	"
"	23	j'	15	101	798	30.6	"
"	24	k'	17	56	616	12.0	"
"	27	l'	17	110	851	24.4	"
"	29	m'	17	80	832	8.2	"
"	29	m'	18	30	381	16.2	"
"	30	n'	18	40	352	9.0	"
July	11	o'	18	127	1105	28.5	"
"	12	p'	19	153	1380	36.0	"
"	13	q'	16	150	1119	23.2	"

PAUL M. TRUEBLOOD — O. W. FERGUSON

DATE	DAY	VOLUME	POSITIONS	SOUNDINGS	STATUTE	MILES	VESSEL	CH. PARTY
July 17	r	19	128	843	32.0		Launch 54	
" 18	s	20	144	880	16.0		"	
" 21	t	21	146	999	20.0		"	
" 24	u	22	166	1043	22.5		"	
" 25	v	22	165	1133	23.0		"	
" 26	w	22	97	745	13.2		"	
" 27	x	22	181	1489	28.7		"	
" 27	x	23	7	58	1.3		"	
" 28	y	23	163	1057	19.5		"	
" 29	z	23	89	625	9.5		"	
" 31	a	24	156	756	21.7		"	
Aug. 4	b	25	153	817	16.2		"	
" 3	c	25	186	1108	21.5		"	
" 4	d	24	165	984	26.2		"	
" 5	e	26	91	639	15.0		"	
" 7	f	27	148	948	17.7		"	
" 10	g	27	162	957	15.5		"	
" 17	j	26	133	779	14.2		"	
	K	28						

PAUL M. TRUEBLOOD

7046

55168

12376

June 19	a	1	70	604	11.2	New launch
" 20	b	1	104	1035	19.0	" "
" 21	c	2	84	818	13.3	" "
July 25	d	2	128	580	14.2	" "
" 26	e	2	133	502	17.4	" "
" 27	f	3	118	429	16.0	" "
" 28	g	3	74	187	8.5	" "
" 29	h	3	53	266	4.8	" "
" 31	i	3	88	357	14.0	" "
Aug. 1	k	3	35	157	4.0	" "
" 1	k	4	93	384	12.3	" "
" 14	l	4	92	628	12.0	" "
" 16	m	4	118	797	14.3	" "
" 16	m	5	23	119	1.5	" "

TOTAL, New Launch,

1213

6863

162.5

## SKIFF

JUNE 19	a	1	46	152	4.5	Skiff
" 20	b	1	25	77	3.4	"
" 21	c	1	40	125	3.8	"

TOTAL, Skiff,

111

354

11.7

" New Launch

1213

6863

162.5

" Launch 54

7046

55168

12376

" For Sheet

8370

62385

1411.8

PAUL M. TRUEBLOOD

TOTAL, Capt. Ferguson,	8	1006	9235	226.2
Trueblood	99	7364	53150	1185.6
	107	8370	62385	1411.8

VEC  
Feb. 28, 1917

HYDROGRAPHIC SHEET 3902.

Pamlico Sound, vicinity of Ocracoke Inlet, N.C., by  
Assistant P. M. Trueblood in 1916.

TIDES.

	Black Beacon Sheep ft.	Slue Light ft.	Harbor Island Foot Shoal ft.	Nine Foot Shoal ft.	Pamlico Inn Wharf ft.	Portsmouth ft.	A Ruth Cape Staff ft.	Lookout ft.
Mean low water, or plane of reference on staff	2.4	2.6	3.3	2.6	3.4	2.3	1.3	
Mean range of tide	1.0-	1.0-	1.0-	1.2	1.0-	1.9	3.7	

Hydrographic Sheet # 3902  
Pamlico Sound; Core Sound to Ocracoke Inlet  
North Carolina.

The positions for the work on this sheet were protracted by the field party and have been taken, generally, as correct although a large number of verifications were made in order to locate obscure positions and to check where errors in protracting appeared probable; A few errors were found but this portion of the work is believed to be quite correct.

A few soundings were pencil platted by the field party and these were found to be fairly correct although in a few cases the shallowest sounding had not been platted and in most cases too few soundings were platted to give the best results.

The work in the field both as to the ground covered and the records of good character and appears sufficient to develop the Channel quite accurately but the does not appear sufficient to develop the many flats so that the low water line can be shown with any degree of accuracy; On line "e" day, between positions 41-42, about 1700 m North of East from signal "One" a 7 foot sounding appears, this appears doubtful as water of 10 feet and up is shown in close proximity; On line "d" day between positions 20-21 an 8 foot sounding is shown when it would appear that 13 ft should be had; This position is about 2000 m N.E. of Sig Low; On line "g" day between positions 120-121 (1480 m N.W. of Sig "One" a 7 foot sounding develops when 11 feet could be expected; On line "B" day positions 71-72 about 2400 m North of East of Sig "Brant" a 14 ft

11/21/17 These and other doubtful soundings rejected by direction of Chief Engineer

## Hydrographic Sheet #3902

Rejected by  
Chief Draftsman  
11/2/17

sounding develops when 19 feet would be looked for; These all appear doubtful and have been so marked on the Sheet.

The projection was evidently found so distorted by the field party that corrections were necessary and made in pencil and as verification shows the corrected <sup>projection</sup> practically correct it has been shown in red.

J. D. Torrey

Just west of signal "Ruth" the narrow channel leading to "Ocracoke" is left somewhat in doubt; additional line and quite necessary to fully develop this channel and should have been run.

J. D. T.

In addition to the sdgs. mentioned above that were rejected, the following undoubtedly erroneous sdgs. were found by the verifier and rejected by direction of the Chief Draftsman:

On B' day near pos. 20 (lat. 09' - long 15') a 13 foot sdg. surrounded by 19's

On S day between pos. 85 & 86 (lat 07'42" - long. 06'10") a 7 foot <sup>sdg.</sup> near 13's.

On U day between pos. 28 & 29 (lat. 05'28" - long. 04'55") a zero sdg. where 4's or 6's were to be expected. This was undoubtedly a case of incomplete recording.

On J' day between pos. 41 & 42 (n.w. corner of sheet, n. e. of O Ding, a 13 ft. sdg. near 19's.

On g' day between pos. 22 & 23 (near lat. 04', long. 08') a 5 ft. sdg. where 9 or 10 was to be expected.

As this sheet had already been applied to the chart, those changes made by the verifier that affected the compilation were indicated on tracing paper and referred to the compiler for correction on the compilation.

Samuel L. Rosenberg.

~~Applied to chart 421 (reconstruction) Aug. 3, 1945 L.A.M.~~

Applied to chart 419 (new chart) Aug. 3, 1945 L.A.M.